#### **VITA**

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> Born May 1, 1946 Married, 2 Children U. S. Citizen

#### **EDUCATION**

Ph. D., Economics M.A., Economics B.A., Economics

University of Michigan, 1974 University of Michigan, 1970 Grinnell College, 1968

# HONORS AND AWARDS

U. S. Department of Education, Chinese Track for International Business Studies, 2000-02 Swedish Information Service, travel grant, 1997.

U. S. Department of Education, International Business Specialization, 1996-98.
 Center for Research on Telecommunications Policy, local telecommunications, 1996.
 Council on Economic Regulation grant to study the public interest in telecommunications, 1989.

National Academy of Sciences travel grant to study utility pricing in Yugoslavia, November, 1977.

Rackham Prize Fellow, 1971-72

Brookings Workshop in Regulation Fellowship, 1971

Ford Foundation Graduate Fellowship in Economics, 1969-70

#### EMPLOYMENT EXPERIENCE

Professor of Economics, Southern Illinois University at Edwardsville, 1985 to present. Director of International Exchange Programs, School of Business, 1996 to present, Chairman of the Department of Economics 1986-1994. Teaching duties include graduate and undergraduate micro and macroeconomics, industrial organization, and antitrust and public utility regulation.

Visiting Professor, University of Illinois at Urbana-Champaign, Fall, 1986. Taught Ph. D. level course in public utility regulation.

Commissioner, Illinois Commerce Commission, December, 1984, to March, 1986, appointed by Governor James R. Thompson. Chairman of the Commission's Telecommunications Policy Committee and member of the Commission's Electric Policy Committee. The Illinois Commerce Commission is the public utilities commission in Illinois.

President, The Resource Group, Inc., St. Louis, Missouri, 1980 to present. The Resource Group provides economic consulting services to a variety of clients in public utility regulatory cases, antitrust, evaluation of economic loss, accounting, and general economics.

Consulting Economist, Chicago Regional Office, Federal Trade Commission, 1979 to 1983, providing analysis and recommendations primarily in antitrust cases.

Associate Professor of Economics, Southern Illinois University at Edwardsville, 1978-85. Assistant Professor of Economics, Southern Illinois University at Edwardsville, 1974-78. Lecturer, Southern Illinois University at Edwardsville, 1972-74.

Sabbatical leave, December, 1977, to August, 1978, at Data Resources, Inc., Washington, D.C., engaged in electricity pricing studies.

Industry Economist, Office of Economics, Federal Power Commission, Summer, 1970.

Teaching Fellow, University of Michigan, Fall, 1970, and Summer, 1971.

## JOURNAL ARTICLES AND BOOKS

"Telecom Competition in Canada and the U. S.: The Tortoise and the Hare," in Telephony, the Media, and the Internet: Selected Papers from the 25<sup>th</sup> Annual Telecommunications Policy Reserach Conference, Jeffrey K, MacKie-Mason and David Waterman, editors, Lawrence Erlbaum Associates, 1998, (co-author).

Telecommunications Transformation: Technology, Strategy, and Policy, co-editor, IOS Press, The Netherlands, 1998.

"Common Carriers, Public Utilities, and Competition," *Industrial and Corporate Change*, Vol. 5, No. 4, 1996, pp. 993-1011 (co-author).

"Strategy and Policy for Local Telecommunications Competition," *Industrial and Corporate Change*, Vol. 4, No. 4, 1995 (co-author).

"Economic Principles and Policy Rules for Local Network Interconnection and Network Component Unbundling," *InfoCom Review* (in Japanese), Autumn 1995, pp. 15-30 (co-author).

"Complementary and Anticomplementary with the Same Pair of Inputs," *Journal of Economic Education*, Vol. 25, No. 1, Winter, 1994 (co-author).

"Telephone Company Ownership of Rural Cable Television Companies," Review of Industrial Organization, Vol. 8, No. 4, August, 1993, pp. 465-472 (co-author).

"Market Structure, Uncertainty, and Intrafirm Diffusion: The Case of Optical Scanners in Grocery Stores," *The Review of Economics and Statistics*, May, 1992, pp. 345-50 (co-authors).

"Cable Television and Competition," Telecommunication Policy, December, 1991 (co-author).

"The State of Competition in Telecommunications," in After the Breakup: Assessing the Post-AT&T Divestiture Era, Barry Cole, ed., Columbia University Press, 1991.

"Measuring the Economic Impact of Institutions of Higher Education," Research in Higher Education, Vol. 28, No. 1, 1988, pp. 17-33 (co-authors).

"The Transition to Competition in the Electric Utility Industry," *Journal of Energy Law and Policy*, The University of Utah, Vol. 8, No. 2, 1988, reprinted in *Public Utility Law Anthology*, Vol. XI, 1988, May, 1989 (co-authors).

"Local Measured Service: Advantages and Implementation," *Telecommunications Policy*, March, 1988 (co-author).

"Deregulation of Local Exchange Telecommunications and Its Effect on Independent Telephone Companies," *Telematics*, Vol. 4, No. 7, July, 1987.

"A Dynamic Analysis of the Adoption of a New Technology: The Case of Optical Scanners," The Review of Economics and Statistics, February, 1987 (co-authors).

"Estimating the Economic Impact of Repealing Laws Prohibiting Sunday Sales," *International Journal of Retailing*, Vol. 2, No. 1, 1987 (co- author).

"Regulatory Considerations in the Introduction of Competition into the Telecommunications Industry," in *Telecommunications and Equity: Policy Research Issues*, James Miller, editor, Elsevier/North Holland, 1986 (co-author).

"Intermarket Differences in the Early Diffusion of an Innovation," Southern Economic Journal, January, 1985 (co-author).

"Ownership and Control of Large Industrial Firms: Some New Evidence," Review of Business and Economic Research, Vol. XVIII, No. 1, Fall, 1982, (co-author).

"Managerialism and Corporate Control: An Empirical Analysis," Revista Internazionale di Scienze Economiche e Commercieli (International Review of Economics and Business), Vol. XXVII, No. 9, September, 1980 (co-author).

"Owner vs. Manager Control: Some Evidence on Discriminatory Employment Practices," Revista Internazionale di Scienze Economiche e Commercieli (International Review of Economics and Business), Vol. XXVI, No. 3, March, 1979 (co-author).

"Market Power: Market Share and Profitability," *Industrial Organization Review*, Vol. 5, No. 1, 1977 (co-author).

"Profit Maximization and Discrimination," *Industrial Organization Review*, Vol. 4, No. 2, 1976 (co-author).

The Antitrust Dilemma, editor, Lexington Books (D. C. Heath & Company), 1974, (co-author).

"Allocative and Distributive Effects of Monopoly," in *The Antitrust Dilemma*, (above, co-author).

## OTHER PUBLICATIONS

Co-editor, Special Issue of *Telecommunications Policy*, "The Political Economy of Telecommunications Regulation," Vol. 23, No. 9, October, 1999.

Book Review, Designing Incentive Regulation for the Telecommunications Industry, David E. M. Sappington and Dennis L. Weisman, The MIT Press, 1996, in The Annals, May 1998.

Book Review, Telephone Companies in Paradise: A Case Study in Telecommunications Deregulation, Milton L. Mueller, New Brunswich/London: Transaction Publishers, 1993, in Information Economics and Policy, 1994.

"Designing and Evaluating Demand - Side Management Programs," Proceedings of the 16th Annual International Conference of the International Association of Energy Economists, Nusa Dua, Bali, Indonesia, July 27-29, 1993 (co-author).

Analysis of H.R. 3515 on telecommunications company provision of information services, Alliance for Public Technology, October, 1991.

"The Role of Price Caps in Information Services," August, 1991 (co-author).

Monthly column for Tele/Scope, an on-line telecommunications information service published by Tele/Scope Networks, Inc., New York, 1986-1991.

"Cable Television and Competition," Connections, May/June, 1991.

Book Review, Future Competition in Telecommunications, Stephen P. Bradley and Jerry A. Housman, editors, Harvard Business School Press, Boston, 1989, in Telecommunications Policy, December, 1990.

"The Future for Price Regulation," Telecommunications Abstracts Annual 1988, Vol. 4, Booker A & I Publishing, New York, 1989.

"Costing Broadband for Pricing and Regulation," in Telecommunications Costing in a Dynamic Environment, Proceedings of the Bellcore - Bell Canada conference, San Diego, April, 1989.

"Operating Successfully in a Regulated Environment," Pay Phone Exchange, January, 1989.

Book Review, The Bigness Complex, Walter Adams and James W. Brock, in the Review of Social Economy, Vol. XLVI, No. 1, April, 1988, pp. 81-82.

"New Strategies for Telecommunications Regulation," Proceedings of the Fourteenth Annual Rate Symposium, "Pricing Electric, Gas, and Telecommunications Services Today and for the Future," Kansas City, February, 1988.

"Redesigning Local Intra-LATA Rate Structures in the Context of Competitive Pressures, in Alternatives to Traditional Regulation: Options for Reform, Harry M. Trebing and Patrick C. Mann, editors, Institute of Public Utilities, Michigan State University, 1988.

"ISDN: Beyond Jokes to Payment," Proceedings of the Regional Conference of the International Council for Computer Communications, ICCC-ISDN '87, "Integrated Services Digital Network: Evolving to ISDN in North America, Dallas, September 15-17, 1987.

"Regulation, De-Regulation, and the Prospects for Small Telephone Companies," Proceedings of the 26th Iowa State Regulatory Conference, Ames, Iowa, May 19-21, 1987.

"Deregulation of Local Exchange Telecommunications and Its Effect on Independent Telephone Companies," Proceedings of the Third Annual Current Issues Challenging the Regulatory Process, New Mexico State University, April, 1987.

"Policy Face-off on LMS," Telephony, April 13, 1987.

"The Outlook for Effective Telecommunications Regulation," Proceedings of the Thirteenth Annual Rate Symposium, "Pricing Electric, Gas and Telecommunications Services Today and for the Future," The Institute for the Study of Regulation, St. Louis, February, 1987.

"Capital Recovery Issues for South Central Bell - Kentucky," January, 1987.

"The Renewal of Competitive Pressures on Energy Utilities," Proceedings of the 16th Annual Meeting of the Illinois Economic Association, Chicago, October, 1986.

"Theoretical, Practical, and Policy Issues in Telecommunications Cost Recovery," Proceedings of the Fifth NARUC Biennial Regulatory Information Conference, The National Regulatory Research Institute, Columbus, Ohio, September, 1986, (co-author).

"Capital Recovery Issues for Southwestern Bell Telephone," June, 1986.

Book Review, Innovation and Growth, F. M. Scherer, The MIT Press, 1984, Southern Economic Journal, January, 1986.

"Fiscal Prospects for St. Louis Area Governments in the 1980s," Proceedings of the Meetings of the Illinois Economic Association, Chicago, October, 1985 (co-author).

"Regulatory Considerations in the Introduction of Competition into the Telecommunications Industry," Illinois Commerce Commission, July, 1985 (co-author).

"A Strategy for the Devolution of Electric Generation," Illinois Commerce Commission, May, 1985.

"Fiscal Prospects for St. Louis Area Governments in the 1980's," November, 1984 (co-author).

"Sample Design and Statistical Analysis of Lead and Cadmium Test Results for Chemetco," March, 1985 (co-author).

"The Economic Implications of Sunday Sales in Cape Girardeau County," October, 1984 (co-author).

"The Economic Implications of Sunday Sales in St. Louis County," September, 1984 (co-author).

"The Economic and Financial Feasibility of a Riverfront Port Facility in East St. Louis," prepared for the Office of the President, Southern Illinois University at Edwardsville, May, 1984 (co-author).

"The Economic Impact of Civic Memorial Airport and Its Adjacent Businesses on the Illinois SMSA," prepared for the Civic Memorial Airport Authority, July, 1983 (co-author).

"Inventory of Local Governments in the St. Louis Metropolitan Area," prepared for the Office of the President, Southern Illinois University at Edwardsville, April, 1983 (co-author).

Estimating the Impact of Time-of-Day Electricity Pricing in Maryland, prepared by Data Resources, Inc., for the Maryland Power Plant Siting Program, February, 1982 (co-author).

"The Economic Impact of Southern Illinois University at Edwardsville on the St. Louis Metropolitan Area," prepared for the Office of the President, Southern Illinois University at Edwardsville, November, 1981 (co-author).

Book review, Public Utility Rate Making in an Energy Conscious Environment, edited by Werner Sichel, Growth and Change, July, 1980.

Book review, Public Policy and the Corporation, Mervyn A. King, Southern Economic Journal, January, 1980.

"Benefits and Costs of Introducing Marginal-Cost-Based Time-of-Day Electricity Pricing: Some Preliminary Analysis," Topics in Energy, Data Resources, Inc., April, 1979 (co-author).

The Impact of Marginal Cost Electricity Pricing in the State of Maryland, prepared by Data Resources, Inc., for the Maryland Power Plant Siting Program, February, 1979 (co-author).

The Use of Energy in the St. Louis Region, 1970-74, Center for Urban and Environmental Research and Service Report #6, Southern Illinois University at Edwardsville, March, 1977 (co-authors).

Contributor to Regional Energy Modeling: An Evaluation of Alternative Approaches, by Alan S. Cohen and Kenneth W. Costello, Regional Studies Program, Argonne National Laboratory, 1975.

"Profitability and Discretionary Behavior in Large U.S. Industrial Firms," Proceedings of the Illinois Economic Association, 1975 (co-author).

## **TESTIMONY**

Testimony, Joint Petition for Global Resolution of Telecommunications Proceedings and Petition of Senators Vincent J. Fumo, Roger A. Madigan, and Mary Jo White, et al., Pennsylvania Public Utility Commission Dockets No. P-00991649 and P-00991648, on behalf of the Office of Small Business Advocate, April, 1999.

Testimony and Rebuttal Testimony, Petition for Alternate Regulation and Network Modernization Plan of GTE North Incorporated, Pennsylvania Public Utility Commission Docket No. P-00981449, on behalf of the Office of Small Business Advocate, February and March, 1999.

Testimony and Rebuttal Testimony, Petition of United Telephone Company of Pennsylvania for Approval Under Chapter 30 of the Public Utility Code of an Alternative Regulation and Network Modernization Plan, Pennsylvania Public Utility Commission Docket No. P-00981410, January and February, 1999.

Testimony, Rebuttal Testimony, and Surrebuttal Testimony, Petition of the Pennsylvania Telephone Association Small Company Group for Approval of an Alternative and Streamlined Form of Regulation and Network Modernization Plans, Pennsylvania Public Utility Commission Dockets No. P-00981425 *et al.*, on behalf of the Office of Small Business Advocate, December, 1998, and January, 1999.

Testimony and Rebuttal Testimony, Petition of ALLTEL of Pennsylvania, Inc., for Approval of an Alternate Form of Regulation and Network Modernization Plan, Pennsylvania Public Utility Commission Docket No. P-00981423, on behalf of the Office of Small Business Advocate, December, 1998, and January, 1999.

"Ownership Restrictions on the Purchasers of Gas Distributors and Retailers in Victoria (Australia)," Australian Competition & Consumer Commission, on behalf of the Energy Projects Division, Department of Treasury & Finance, Victoria, Australia, May, 1998.

Testimony, Complaint Against Ameritech by the Illinois Cable Television and Communications Association regarding AmeriChecks, Illinois Commerce Commission Docket No. 97-0344, on behalf of Ameritech, April, 1998.

Testimony, Leaf River Valley Cellular Telephone Company, Inc. v. Contel Cellular, Inc., and Rockford MSA Limited Partnership, Circuit Court for the 17<sup>th</sup> Judicial Circuit, Winnebago Country, Illinois, on behalf of GTE Cellular, April, 1998.

"Analysis of the Benefits and Costs of VENCorp's Application to the ACCC and BHP Petroleum's Submission in Response," Australian Competition & Consumer Commission, on behalf of the Energy Projects Division, Department of Treasury & Finance, Victoria, Australia, March, 1998.

Testimony and Surrebuttal Testimony, Petition of Bell-Atlantic Pennsylvania, Inc., for a Determination that Provision of Business Telecommunications Services Is a Competitive Service Under Chapter 30 of the Public Utility Code (Business), Pennsylvania Public Utility Commission Docket No. P-00971307, on behalf of the Office of Small Business Advocate, March and May, 1998.

"Analysis of VENCorp's Application to the ACCC and BHP Petroleum's Submission in Response," Australian Competition & Consumer Commission, on behalf of the Energy Projects Division, Department of Treasury & Finance, Victoria, Australia, February, 1998.

Testimony, Application of Pennsylvania Power Company for Approval of Its Restructuring Plan Under Section 2806 of the Public Utility Code, Pennsylvania Public Utility Commission Docket No R-00974149, on behalf of the Office of Small Business Advocate, January, 1998.

Testimony, Petition for Streamlined Form of Regulation and Network Modernization Plan of Citizens Telephone Company of Kecksburg, Pennsylvania Public Utility Commission Docket No. P-00971229, on behalf of the Office of Small Business Advocate, November, 1997.

"Victorian Natural Gas Markets," Australian Competition & Consumer Commission, on behalf of the Energy Projects Division, Department of Treasury & Finance, Victoria, Australia, October, 1997.

Testimony and Sur-Rebuttal Testimony, Petition for Streamlined Form of Regulation and Network Modernization Plan of Ironton Telephone Company, Pennsylvania Public Utility Commission Docket No. P-00971182, on behalf of the Office of Small Business Advocate, July and August, 1997.

Affidavit, Rueschhoff Physical Therapy, Inc., v. Preferred Provider Therapists, Inc., on behalf of Rueschhoff Physical Therapy, Inc., May, 1997.

Canadian Radio-Television and Telecommunications Commission, Price Cap Regulation, Case No. 96-8, on behalf of TELUS, October, 1996.

Canadian Radio-Television and Telecommunications Commission, Local Interconnection and Network Component Unbundling, Case No. 95-36, on behalf of Stentor, August, 1996.

Canadian Radio-Television and Telecommunications Commission, AGT General Rate Application, on behalf of AGT, July, 1996.

Testimony, Alternative Regulation for Commonwealth Telephone Company, Pennsylvania Public Service Commission Docket No. P-00961024, on behalf of the Office of Small Business Advocate, June, 1996.

Testimony, Streamlined Regulation for the Frontier Companies, Pennsylvania Public Service Commission Docket No. P-00951005, May, 1996.

Rebuttal Testimony, Universal Service, Pennsylvania Public Utility Commission Docket No. I-00940035, on behalf of the Office of Small Business Advocate, February, 1996.

Application of Time Warner to Provide Local Exchange Service, Public Utilities Commission of Ohio, Case No. 94-1695-TP-ACE on behalf of Cincinnati Bell, May, 1995.

Affidavit in Support of the Motion of the Department of Justice for Partial Removal of the Interexchange Restriction to Permit Ameritech to Provide Interexchange Services on a Trial Basis, U.S. District Court for the District of Columbia, Civil Action No. 82-0192 (HHG), on behalf of Ameritech, May, 1995.

Application of MFS Intelenet of Pennsylvania for Approval to Operate as a Local Exchange Telecommunications Company, Pennsylvania Public Utility Commission Docket No. A-310203F0002, on behalf of the Office of Small Business Advocate, December, 1994.

Bell Telephone Company of Pennsylvania Alternate Form of Regulation Docket No. P-00930715, Pennsylvania Public Utilities Commission, on behalf of the Pennsylvania Office of Small Business Advocate, December, 1993.

Canadian Radio-television and Telecommunications Commission, Alternative Regulatory Framework and Regulatory Reform, Case 92-78, on behalf of AGT Limited, April, 1993.

Rebuttal Testimony, Illini Carrier, L.P., Docket No. P91-0001, Illinois Commerce Commission, June, 1992.

Submission, Federal Communication Commission CC: 87-266, In the Matter of Telephone Company - Cable Television Cross-Ownership Rules Sections 63.54-63.58, March, 1992.

Affidavit, Federal Communication Commission CC Docket No. 91-141, Expanded Interconnection With Local Telephone Company Facilities, August, 1991.

Affidavit, U. S. District Court for the District of Columbia, Civ. No. 82-0192 (HHG), United States of America vs. Western Electric Company, Inc. and American Telephone & Telegraph Co., on behalf of Bell Regional Holding Companies, January, 1991.

Indiana Utility Regulatory Commission, Cause No. 38779, on behalf of New Paris Telephone, July, 1990.

California Public Service Commission Docket I.87-11-033, on behalf of Citizens Utilities Company of California, January and February, 1990.

New York Public Service Commission Alternative Regulation Docket 28961, on behalf of New York Telephone, September, 1989.

Bagdon vs. Firestone, United States District Court, Northern District of Illinois, Eastern Division, June, 1989.

Access Docket 83-999-11, Utah Public Service Commission, on behalf of U S WEST Communications, October, 1988.

General Rate Case Docket 88-049-07, Utah Public Service Commission, on behalf of U S WEST Communications, September, 1988, March, 1989, and May, 1989.

Statement with Mountain Bell filing, Utah Public Service Commission Docket No. 88-999-02, April, 1988.

Statement with Centel, Contel, Northwestern Bell, and United Telephone of Iowa filing, Iowa Utilities Board Docket No. INU-88-1, April, 1988, and Supplemental Statement, June, 1988.

Statement with NYNEX filing in FCC CC Docket No. 87-313, Notice of Proposed Rulemaking, Price Cap Regulation, October 19, 1987.

Rate Stability Plan Docket No. 87-114-TC, New Mexico State Corporation Commission, on behalf of U S WEST Communications, September, 1987, March, 1989, and May, 1989.

Docket 5323, Colorado Public Service Commission, on behalf of Mountain Bell, February 1987.

Joint Corporations Committee, Wyoming Legislature, on behalf of Mountain Bell, January 1987.

Comments before the National Telecommunications Information Administration, Notice of Inquiry, "Comprehensive Review of Rate of Return Regulation in the U. S. Telecommunications Industry," on behalf of Bell Atlantic, December, 1986.

Mountain Bell Rate Restructuring Docket 1720, Colorado Public Service Commission, on behalf of Mountain Bell, June and December, 1986.

Comments on Petitions for Waivers and Revised Access Tariffs, New York Telephone Company and New England Telephone and Telegraph Company, Transmittal No. 775 and 819, Federal Communications Commission, on behalf of NYNEX, August, 1986.

Notice of Inquiry into Regulation of Electricity Sales-For-Resale and Transmission Services, Docket No. RM85-17-000, Federal Energy Regulatory Commission, on behalf of the Illinois Commerce Commission, September, 1985, and January, 1986.

Laclede Gas Company Rate Hearing Docket GR83-233, Missouri Public Service Commission, on behalf of contractor intervenors, October, 1983.

Delmarva Power Rate Design Docket 82-23, Delaware Public Service Commission, on behalf of the staff of the Delaware Public Service Commission, July and September, 1983.

Illinois Power Company Rate Hearing Docket 82-0152, Illinois Commerce Commission, on behalf of residential intervenors, July, 1982.

Central Illinois Public Service Company Rate Hearing Docket 82-0039, Illinois Commerce Commission, on behalf of residential intervenors, June, 1982.

Central Illinois Public Service Company Rate Hearing Docket 80-0124, Illinois Commerce Commission, on behalf of residential intervenors, August, 1981.

Illinois Power Company Rate Hearing and PURPA Dockets 80-0544 and 80-0365, Illinois Commerce Commission, on behalf of residential intervenors, January and March, 1981.

Central Illinois Public Service Company Rate Hearing Docket 79-0087, Illinois Commerce Commission; on behalf of residential intervenors, July, 1979.

Illinois Power Company Rate Hearing Docket 79-0071, Illinois Commerce Commission, on behalf of residential intervenors, July, 1979.

Union Electric Rate Design Docket ED-78-163, Missouri Public Service Commission, on behalf of residential intervenors, November, 1978, and May, 1979.

Peak-Load Pricing Docket 76-0568, Illinois Commerce Commission, on behalf of residential intervenors, April, 1978, and October, 1978.

Illinois Power Company Rate Hearing Docket 76-0435, Illinois Commerce Commission, on behalf of residential intervenors, February and March, 1977.

Union Electric Rate Hearing Case 18,314, Missouri Public Service Commission, on behalf of residential intervenors, November, 1975.

Union Electric Rate Hearing Docket 59648, Illinois Commerce Commission, on behalf of residential intervenors, August and September, 1975.

Illinois Power Company Rate Hearing Docket 58907, Illinois Commerce Commission, on behalf of residential intervenors, September and October, 1974.

## PAPERS PRESENTED

"The Transition to Competition in Telecommunications and Its Implications for the Electric Utility Industry," presented at the 16<sup>th</sup> Annual International Communications Forecasting Conference, St. Louis, June, 1998 (co-author).

"Restructuring Electric Utilities: Lessons from Telecommunications," presented at the 21<sup>st</sup> International Conference of the International Association of Energy Economists, Quebec City, May 1998 (co-author).

"The Internet: Regulatory Arbitrariness All Over Again," Harvard Information Infrastructure Project Conference, "The Impact of the Internet on Communications Policy," John F. Kennedy School of Government, Harvard University, Cambridge, December, 1997 (co-author).

"Telecom Competition in Canada and the U. S.: The Tortoise and the Hare," Annual Telecommunications Policy Research Conference, Alexandria, Maryland, September, 1997 (co-author). This paper was also presented at Chalmers University (Sweden) in August, 1997, at the Stockholm School of Economics and the European Commission DG XIII (Telecommunications) in January, 1998, and at Strathclyde University (Glasgow) and Universidade Nova de Lisboa (Lisbon) in March, 1998.

"Regulatory Policy, Local Competition, and Convergence: Converging or Diverging?", presented at "Bridging Digital Technologies and Regulatory Paradigms," Berkeley Symposium on Policy and Strategy for Converging Information Industries," Berkeley, June, 1997.

"Local Telecommunications Competition: What Is It and Will We Get It?", presented at the 15<sup>th</sup> Annual International Communications Forecasting Conference, San Francisco, June, 1997.

"Of Mantras and Mischief," presented at the Eleventh International Conference, International Telecommunications Society, Seville, Spain, June, 1996 (co-author).

"Public Policy Issues of Introducing Local Competition in Public Utility Industries," "Public Policy and Corporate Strategy for the Information Economy," Consortium for Research on Telecommunications Policy, Northwestern University, May, 1996 (co-author).

"Public Policy Implications of Introducing Competition in Public Utility Industries," presented at the meetings of the American Economic Association, San Francisco, January, 1996 (co-author).

"Local Competition: Pricing and Unbundling," Current Issues in Telecommunications Regulation, Center for the Study of Regulated Industries, Montreal, November, 1995.

"The Future of Nuclear Energy in Ontario," The Future of the Electric Power Industry in Ontario, Institute of Electrical and Electronic Engineers and the Power Engineering Society, Toronto, November, 1995 (co-author).

"Local Network Interconnection and Network Component Unbundling," Workshop on Local Competition, National Association of Regulatory Utility Commissioners Meetings, San Francisco, July, 1995.

"Local Network Interconnection and Network Component Unbundling," Chaos or Competition in Telecommunications Markets, Center for Regulatory Studies, Chicago, May, 1995.

"Local Exchange Interconnection and Network Component Unbundling," International Telecommunications Society Workshop on Interconnection, Wellington, New Zealand, April, 1995 (coauthor).

"Local Exchange Competition, Unbundling, and Interconnection Policy," Telecommunications Infrastructure and the Information Economy: Interactions Between Public and Corporate Strategy, Center for Research on Telecommunications Policy, Ann Arbor, March, 1995.

"Effective DSM Program Prerequisites and Outcomes," 4th Integrated Resource Planning Conference, Burlington, Vermont, September, 1992 (Co-author).

"Cable Television, Competition, and Telco Ownership," Ninth International Conference, International Telecommunications Society, Cannes, France, June, 1992.

"Regulation of Cable Television," Illinois Economic Association, Chicago, October, 1991 (co-author).

"Cable Television Competition," presented at the Sixth Annual Conference on New Directions for State Telecommunications Regulation, Salt Lake City, February, 1991 (co-author).

"The Valuation of Regulated Electric Utility Property for Ad Valorem Tax Purposes: Analysis and Reform," National Association of Railroad and Utility Tax Representatives Annual Meeting, Tarpon Springs, Florida, November, 1990 (co-author).

"Cable Television and Telecommunications: Theory, Evidence, and Policy," Eighteenth Annual Telecommunications Policy Research Conference, Airlie, Virginia, September-October, 1990 (co-author).

"Local Telephone Franchises: Myth or Reality?" Iowa State University Regulatory Conference -- Survival Strategies for the 90s, Ames, May, 1990.

"Broadband, Telecommunications, and Cable Television: Policies for New Technology and Services," Eighth International Conference, International Telecommunications Society, Venice, Italy, March, 1990 (co-author).

"Market Structure, Uncertainty, and Intra-firm Diffusion: The Case of Optical Scanners in Grocery Stores," Southern Economic Association, Orlando, November, 1989 (co-authors).

"Competition and Deregulation of Telecommunications," Illinois Economic Association, Chicago, October, 1989.

"Inflation, Utility Regulation, and Regulatory Policy," Western Economic Association, Lake Tahoe, June, 1989 (co-author).

"Measuring Competition for IntraLATA Services," National Economic Research Associates Conference on Telecommunications, Scottsdale, Arizona, April, 1989.

"The State of Competition in Telecommunications Since 1984," Columbia University Center for Telecommunications and Information Studies Conference, "Divestiture Five Years Later: Empirical Research and Policy Analysis of Trends in U. S. Telecommunications," Washington, D. C., March, 1989.

"Moving Toward Reform: State and Federal Telecommunications Regulation," The Telecommunications Conference Center, "Telecommunications: Meeting Tomorrow's Challenges," New York City, November-December, 1988, reprinted in the Association of Data Communications Users Member Newsletter, January, 1989.

"Incentive Regulation and Price Regulation for Telecommunications: A U. S. View," International Institute of Communications Forum, London, November, 1988.

"The Economics and Pricing of Broadband," Telecommunications Policy Research Conference, Airlie House, Airlie, Virginia, October, 1988.

"The Valuation of Regulated Electric Utility Property for Ad Valorem Tax Purposes: Analysis and Reform," The International Association of Assessing Officers, Nashville, September, 1988 (co-authors).

"Intrafirm Diffusion of an Innovation in a Service Industry," American Economic Association, Chicago, December, 1987, and Midwest Economic Association, Chicago, April, 1988 (co-authors).

"The Role for Regulation in a Competitive Telecommunications Industry," Western Economic Association, Vancouver, July, 1987.

"Measuring the Economic Impact of Colleges," Western Economic Association, Vancouver, July, 1987 (co-authors).

"New Alternatives for Deregulation," Bellcore, "Economic Alternatives to Deregulation Policy," St. Petersburg, Florida, April, 1987.

"Making Divestiture and Deregulation Work: The Illinois Experience," Sixth International Conference on Forecasting and Analysis for Business Planning in the Information Age, Tokyo, Japan, December, 1986, and American Economic Association, New Orleans, December, 1986.

"Introducing Competition into the Electric Utility Industry," Western Economic Association, San Francisco, July, 1986.

"The Emergence of Competition in Public Utilities: Market Events and Regulatory Response," Fifth Annual Conference of the Rutgers University Advanced Workshop in Public Utility Economics and Regulation, New Seabury, Massachusetts, May, 1986.

"Local Measured Service: The Present and the Future," Fourteenth Annual Telecommunications Policy Research Conference, Airlie House, Airlie, Virginia, April, 1986.

"The Consequences of Regulatory Barriers to Technological Advancement: Telecommunications," Rensselaer Polytechnic Institute Conference "Funding the Future of Telecommunications," Saratoga Springs, New York, June, 1985.

"Strategies for Telecommunications Deregulation: Federal and State Policies," Fourth Annual Conference of the Rutgers University Advanced Workshop in Public Utility Economics and Regulation, New Paltz, New York, May, 1985 (co-author).

"The Diversification of Regulated Utilities and the Possibility of Cross-Subsidization," Atlantic Economic Society, Montreal, Canada, October, 1984.

"Considerations in Measuring the Economic Impact of Institutions of Higher Education," Midwest Economic Association, Chicago, Illinois, April, 1984 (co-author).

"A Dynamic Analysis of the Diffusion of an Innovation," Western Economic Association, Seattle, Washington, July, 1983 (co-author).

"Accounting Firm Mergers: Are They Anti-Competitive," Western Regional Meetings of the American Accounting Association, San Francisco, April, 1983 (co-author).

"Implications of Fixed and Variable Cost Determination for Rate Design in the Electric Utility Industry," Atlantic Economic Society, Paris, France, March, 1983 (co-author).

"Intermarket Differences in the Diffusion of an Innovation," Western Economic Association, Los Angeles, July, 1982 (co-author).

"Merger Activity Re-Examined: Does Type of Corporate Control Make a Difference?" Western Economic Association, San Francisco, July, 1981 (co-author).

"Mergers in the Accounting Industry: Are They Anticompetitive?" Western Economic Association, San Francisco, July, 1981 (co-author).

"Electricity Pricing in Yugoslavia: Inferences for the U.S.," Western Economic Association, San Diego, June, 1980.

"The Effect of Corporate Control on the Performance of Large Non-Financial Corporations," American Economic Association, Atlanta, December, 1979 (co-author).

"The Influence of Bank Control on the Performance of Large Industrial Firms: An Empirical Analysis," Southern Economic Association, Atlanta, November, 1979 (co-author).

"Management's Use of Discretionary Resources," Western Economic Association, Anaheim, June, 1977 (co-author).

"Owners vs. Management Control: Discretion and Discrimination," American Economic Association, Dallas, December, 1985 (co-author).

"Profitability and Discretionary Behavior in Large U.S. Industrial Firms," Illinois Economic Association, Chicago, October, 1985 (co-author).

"Entry and Competition, Managerial Discretion, and Discrimination Towards Blacks and Women in Large Industrial Firms," Western Economic Association, San Diego, June, 1975 (co-author).

"Market Structure and Rate of Return," Illinois Economic Association, Peoria, October, 1974.

"Market Share, Industry Concentration, Profit Rates, and Policy Implications," Western Economic Association, Las Vegas, June, 1974 (co-author).

# TALKS PRESENTED

"Current U. S. Antitrust Policy," Swedish Antitrust Authority, Stockholm, January, 1998.

"Telecommunications and the Global Economy," SIUE Chancellor's Colloquium, January, 1998.

"Competition and the Changing Need for Financial and Accounting Information," Association of Government Accountants, St. Louis, January, 1998.

"Telecommunications," SIUE Alumni Program, October, 1998.

"Local Competition: Dream or Reality?", 1997 Canadian Telecommunications Superconference, The Canadian Institute, Toronto, May, 1997.

Keynote Address, 10th Annual Utility Coal Conference, St. Louis, February, 1997.

"Of Mantras and Mischief," conference call presentation, International Symposium on Telecommunications and Universal Service, Telecommunications Users Association of New Zealand, Center for Research in Network Economics and Communication, University of New Zealand, July, 1996.

"Of Mantras and Mischief: Local Telecommunications Competition," the Howard Perez Memorial Lecture, The St. Louis Gateway Chapter of the National Association of Business Economists, April, 1996.

"Dominant Trends in Regulated Industries: Telecommunications and Local Exchange Competition," Closing Plenary Session, 21st Annual Rate and Regulatory Symposium, St. Louis, May, 1995.

Lecture, "Understanding U. S. Antitrust Laws: A Businessman's Perspective," Catholic University of the West, Angers, France, January, 1995.

Seminar on cable television at the Université de Cergy-Pontoise, Cergy-Pontoise, France, November, 1994.

Seminar on U. S. telecommunications at CNRS (Centre National des Recherches Sociales) in Paris, France, November, 1994.

Seminar at DG XIII (Telecommunications) at the European Commission in Brussels, Belgium, November, 1994.

"Standard Costs," Through the Looking Glass: Regulatory Adventures in the Land of Retail Wheeling in Electric Utilities and Bottleneck Competition in Telecommunications, 1994 NASUCA Annual Meeting, Reno, November, 1994.

"Energy Economics and the Outlook for New Technologies," keynote address, Federal Energy Act Conference, Pennsylvania Chamber of Business and Industry, Harrisburg, Pennsylvania, October, 1993.

"Cable Television Regulation," USTA Capital Recovery Seminar, Charleston, South Carolina, September, 1993.

"Utilities and Competition," Society of Depreciation Professionals, Charleston, South Carolina, September, 1993.

"The Objectives of Regulatory Reform," Illinois Commerce Commission Conference, July, 1992.

"The Regulatory Environment: What Do State and Local Policy Makers Need to Know," Telecommunications and Local Economic Development, National Council for Urban Economic Development, St. Louis, May, 1992.

"The Changing Nature of Telecommunications Regulation," Regulatory Issues Panel, Stakeholder Symposium on Telecommunications, University of Kansas, Lawrence, October-November, 1990, May, 1992.

"The Economics of Competition: The Fallacies of Natural Monopoly," Competitive Cable Association, Washington, D.C., April, 1992.

"Safeguards Against Cross-Subsidization," Telecommunications Free Trade Zone: A Model for Local Exchange Competition, Conference sponsored by the Illinois Commerce Commission and the Annenberg Washington Program of Northwestern University, Evanston, March, 1992.

"Discrimination and Cross-Subsidies," Advanced Regulatory Workshop, NARUC-Michigan State University, Williamsburg, Virginia, February, 1992.

"Moving Toward a Competitive Market: A Regulatory Seminar for Decision Makers," Seminars for Telecommunication Delegations from Poland, Hungary, and Bulgaria, Annenberg Washington Program of Northwestern University, October 1991 and January, 1992.

"Regulatory Tools," presented at Latin American Telecommunications Reforms, Organization of American States, Washington, D. C., April, 1991.

"State Regulatory Practices," presented at Telecommunications Policy: Implications for Economic Progress in Vermont, Burlington, February, 1991.

"Regulatory Issues: Who Pays for Modernization," Broadband: Converging on the Future, ComForum, Orlando, December, 1990.

"Regulatory Reform," Illinois Commerce Commission Blue Ribbon Commission on Regulatory Reform, Chicago, October, 1990.

"Cable Television," National Business and Economic Education Association Telecommunications Conference, Chicago, October, 1990.

"The Public Interest in Telecommunication," National Association of State Utility Consumer Advocates, Boston, November, 1989.

"Current Issues in Telecommunications," Illinois CPA Foundation, Chicago, November, 1989.

"Depreciation and Price Caps," USTA Capital Recovery Seminar, Scottsdale, October, 1989.

"Expanding the Horizons: Implications of Global Telecommunications for Oregon," U S WEST Communications Oregon Direct Dialogue, Portland, October, 1989.

"A Former Commissioner's Perspective on Affiliated Issues," USTA Affiliated Interest Issues Seminar, Tarpon Springs, Florida, October, 1989.

"Reducing Regulation of Communications Carriers at the State Level," American Bar Association annual meeting, Honolulu, August, 1989.

"The Evolving Bulk Power Supply Arrangements for a More Competitive Electric Industry: Financial and Regulatory Implications," 1989 Mid-America Regulatory Commissioners Conference, Chicago, June, 1989.

Keynote Address, "Challenge of the 90s," Kentucky Telephone Association annual meeting, Lexington, May, 1989.

"Competition, Deregulation, and Accounting for Telecommunications," 1989 Natural Gas, Telephone, and Electric Industry Accounting and Ratemaking Conference, Texas Society of CPAs, San Antonio, April, 1989.

"Pricing ONA," presentation and session leader at New York - New England Conference on Open Network Architecture, Saratoga Springs, April, 1989.

"The Pros and Cons of Regulatory Options: Pricing Caps," The Telecommunications Conference Center, "State Regulatory Initiatives," Washington, D. C., April, 1988.

"Utility Regulation and the Changing Electric Industry," Great Lakes Power Association Winter Meeting, Marion, Illinois, February, 1988.

"Pay Telephones: The State Regulatory View and Strategies for Progress," Bellcore Regulatory Issues Seminar, November, 1987.

"The Future of the Social Contract," New Mexico State University, "Negotiating the Social Contract", Chicago, September, 1987.

"Electric Rates, Tariff Structures, Competition, and the Outlook for the Future," 9th International Association of Energy Economists Conference, Calgary, Alberta, Canada, July, 1987.

"Competition -- Since Divestiture and Beyond," 80th Annual Convention of the Florida Telephone Association, Naples, Florida, June, 1987.

"Tariff Design for Electricity Markets in Transition," New England Conference of Public Utility Commissioners (NECPUC), Dixville Notch, New Hampshire, June, 1987.

"The Economics of Telecommunications," Telecommunications Public Policy Symposium, J. K. Kellogg Graduate School of Management, Northwestern University, September, 1986.

"The Economics of Traffic Sensitive Costs," Bellcore Traffic Sensitive Cost Recovery Conference, Seattle, July, 1986.

"State Regulation in the New Telecommunications Environment," Forum on Telecommunications Deregulation, Karl Eller Center, University of Arizona, Tucson, June, 1986.

"Competition in Wholesale Electric Markets," Illinois Municipal Electric Agency Annual Meeting, Springfield, Illinois, May, 1986.

"Telecommunications (De)Regulation in Illinois," Roundtable on State Approaches to Regulation, Minnesota State Planning Agency, St. Paul, April, 1986.

"Expectations for and Uses of Forecasting Models," Utility Modeling and Planning Seminar, Iowa-Illinois Gas and Electric Company, Chicago, April, 1986.

"Economic Cost and Regulation," Accounting Witness Seminar, Phoenix, April, 1986.

"State Regulatory Actions - Telecommunication Deregulation," The Telecommunications Conference Center, "Telecommunications Deregulation," Arlington, Virginia, March, 1986.

"Unified Tariffs for Access Charges," Dow, Lohnes & Albertson, "Telephony: State Perspectives," Washington, D.C., February, 1986.

"State Perspectives Toward Telecommunications By-Pass," Phillips Publishing Company, "By-Pass - Defining the Local Exchange," Washington, D.C., February, 1986.

"Competition for Intrastate Toll Services--Innovative Rate Design," Second Annual Conference on State Utility Regulation, Utah Division of Public Utilities and the University of Utah, "What Are the Future Directions for the State of Competitive Telecommunications Services," Salt Lake City, February, 1986.

"Federal and State Telecommunications Policy Issues," Public Utility Research Center Workshop, University of Florida, Gainesville, January, 1986.

"The States, the Feds, Access Charges, and Solutions," Bellcore, "Economic Alternatives for NTS Cost Recovery," Salt Lake City, January, 1986.

"The Role of Regulation in the Evolving Telecommunications Industry," The Energy Bureau, Inc., "Managing the Transition to Telecommunications Competition," Arlington, Virginia, October, 1985.

"Cost Requirements for Effective Telecommunications Regulation," Bellcore, "Economic Cost Modeling Forum," Atlantic City, September, 1985.

"Electric Utility Pricing," Regulation and the Rate-Making Process, New Mexico State University, October, 1981.

"Strategic Planning for Electric Utilities," various dates.

"An Introduction to Strategic Planning for Telecommunications," various dates.

Speaker, Financial Accounting Institute, various dates.

"Capital Recovery in the Telecommunications Industry," seminars sponsored by the United States Telephone Association, Bellcore, and Touche Ross & Company, various dates.

"From Costing to Ratemaking," and "Competition in the Electric Utility Industry," Seminars in Regulatory Economics, "Economics of Electric Power," Tucson, various dates.

"The Regulatory Response to a Competitive Telecommunications Industry," Seminars in Regulatory Economics, "Economics of Telecommunications," Tucson, various dates.

Talks on economic issues to various campus and regional groups.

Appearances on local radio and television programs.

# PROFESSIONAL ACTIVITIES

#### Conferences

Member, Scientific Committee, Thirteenth Biennial Conference of the International Telecommunications Society, Buenos Aires, July, 2000.

Member, Program Commitee, and Regulatory Regimes Theme Coordinator, Twelfth Biennial Conference of the International Telecommunications Society, Stockholm, June, 1998.

One of five foreign experts invited to attend a conference and advise the Chinese on Anti-Monopoly Law, sponsored by the National People's Congress Finance and Economic Committee, Beijing, December, 1998.

Member, Program Committee, and Policy Theme head, International Telecommunications Society and International Computer Communication Consortium joint Conference, Global Networking '97, Calgary, June 1997.

Discussant, Eleventh International Conference, International Telecommunications Society, Seville, Spain, June, 1996.

Participant, Leadership Program on Japan, Ministry of International Trade and Industry, Tokyo, September, 1995.

Discussant, 10th Conference of the International Telecommunications Society, Sydney Australia, July, 1994.

Co-ordinator, Institute of Public Utilities, Michigan State University, various conferences, 1991-92.

Moderator, Stakeholders Symposium, Kansas University, May, 1991 and October, 1991.

Organizer, SIUE Center for Economic Education, "Local Measured Service," April and May, 1989.

Session Leader and Presentation, "New York - New England Conference on Open Network Architecture," Saratoga Springs, New York, April, 1989.

Organize two sessions and Session Chairman, Bellcore/Bell Canada conference, "Telecommunications Costing in a Dynamic Environment, San Diego, April, 1989.

Discussant, "Integrated Broadband Networks," Center for Telecommunications and Information Studies, Columbia University, September, 1988, and participant, February, 1989.

Participant, "The Changing Mission of Telecommunications Regulation at the State Level," The Aspen Institute, August, 1986; August, 1987; February, 1988; August, 1988; July, 1989; August, 1991.

Participant, U. S. West Academic Seminar, Keystone, Colorado, August, 1987; August, 1988.

Participant, Bellcore/MIT Broadband Conference, Salt Lake City, April, 1988.

Session Chairman and participant, "Telecommunications Demand Analysis," Bell Communications Research and Bell Canada, Key Biscayne, January 25-27, 1988.

Participant, Telecommunications Policy Research Conference, 1985- present.

Panelist, "The Telecommunications Industry in Transition: Phase III of Deregulation," E.C. Intelligence, October, 1986.

Discussant, Illinois Economic Association, Chicago, October, 1986.

Midwest Economic Association, Chicago, March 1986.

Midwest Economic Association, Chicago, April, 1984.

Eastern Economic Association, Montreal, May, 1980.

Atlantic Economic Society, Washington, DC, October, 1977

Western Economic Society, Anaheim, June, 1977.

Atlantic Economic Society, Washington, DC, September, 1975

Atlantic Economic Society, Richmond, September, 1974.

Participant, "Telecommunications Public Policy Symposium, J. K. Kellogg Graduate School of Management, Northwestern University, August, September, and December, 1986.

Panelist, "The Future of the Public Switched Network," National Association of Regulatory Utility Commissioners Communications Committee, Amos Tuck School of Business Administration, Dartmouth University, April, 1986.

Participant, "Congress and the Economy: Policy Choices Ahead," National Association of Business Economists, Washington, D.C., February, 1986.

Participant and member of Steering Committee, Advanced Workshop in Public Utility Economics and Regulation, Rutgers University, 1985-86.

Organizer and participant, "Transmission Access: Today and Tomorrow," Third NARUC Electric Research and Development Seminar, St. Charles, Illinois, October, 1985.

Chairman and session organizer, "Utility Diversification and the Consumer," Mid-America Regulatory Commissioners Convention, Acton, Oklahoma, June, 1985.

Participant, Financial Accounting Institute, Washington, D.C., May, 1985

Participant, National Association of Regulatory Utility Commissioners Tenth Technical Conference, Washington, D.C., February, 1985.

Chairman and panel organizer, "The Outlook for Telecommunications," Illinois Economic Association, Normal, Illinois, October, 1984.

Participant "Communications Regulation in Illinois: Perspectives of Future Policy," J. K. Kellogg Graduate School of Management, Northwestern University, October and December, 1983, and January, 1984.

Moderator and organizer, "Telecommunications in the 1980s," Continental Telephone and Illinois Bell Telephone, Southern Illinois University at Edwardsville, May 11, 1983.

Co-organizer of "New Directions in Antitrust," Southern Illinois University at Edwardsville, June 2, 1982.

Session chairman, Midwest Economic Association, Chicago, March, 1982.

Session chairman, Illinois Economic Association, St. Louis, October, 1976.

Participant, Illinois Bell Telephone Conferences on Regulated Industries, September, 1978, at Oakbrook, Illinois; October, 1976, at Eastern Illinois University; and October, 1974, at Northern Illinois University.

Participant, Michigan State University Institute of Public Utilities Seminar, Williamsburg, Virginia, December, 1977.

Participant, American Iron and Steel Institute Seminar, Notre Dame University, April, 1977.

Participant, Economics of Regulated Public Utilities, The University of Chicago, June, 1976.

Participant, Workshop in Computer-Assisted Instruction in Economics, Northern Illinois University, August, 1973.

Co-organizer, Conference in Industrial Organization at Southern Illinois University at Edwardsville, April, 1973.

## Others

Member, Board of Directors, International Telecommunications Society, 1998-present (Publications Committee, Newsletter Board, Web Site Coordinator).

President-Elect, Illinois Economic Association, 1990, and President, 1991.

Referee, The Review of Economics and Statistics, The Southern Economic Journal, The Rand Journal of Economics, Quarterly Review of Economics and Business, Review of Industrial Organization, Journal of Economic Surveys, Growth and Change, The Energy Journal, Review of Social Economy, International Journal of the Economics of Business.

Board of Advisers, Bellcore, 1992 - 1996.

Board of Advisers, Council on Economic Regulation, 1990.

Advisory Board, Telecommunications Abstracts, 1988 - 1990

Advisory Board, Telecommunications Conference Center, 1987 - 1989.

Advisory Committee, Telecommunications Policy Research Conference, 1987 - 1990.

Participant, Telecommunications Outlook Project, Center for Telecommunications Management, University of Southern California, 1986 - present.

Board of Advisors, Chicago Energy Economists, 1985-1992.

Trustee, Illinois Economic Association, 1984-86.

Participant, National Association of Business Economists Quarterly Forecast, 1983-present.

Participant, International Business Condition Digest Monthly Consensus Outlook, 1982-84.

Member, Confluence St. Louis, and member of organizational Governance Committee.

Local Coordinator, 1981 and 1976 meetings of the Illinois Economics Association, St. Louis, Missouri.

Member, Olivette Energy Commission, 1979-1981.

Mentor, Presidential Scholar Program, 1980-84 and 1988 - 1990.

Member, 1976 Illinois Economic Association Program Committee.

Director, Office for Economic Education, Southern Illinois University at Edwardsville, 1974-75.

## Memberships in Professional Organizations

American Economic Association
Midwest Economic Association
Western Economic Association
Southern Economic Association
Illinois Economic Association
Atlantic Economic Society
National Association of Business Economists
International Association for Energy Economics
Industrial Organization Society
International Telecommunications Society

## **CONSULTING**

Telecommunications policy, local exchange competition and interconnection, cost analysis, competition assessment, pricing, and strategic planning.

Electric utility regulatory policy, competition analysis, cost analysis, rate design, and strategic planning.

Antitrust analysis and testimony for cases in a range of industries including chemicals, agricultural products, manufacturing, retail sales, the accounting profession, and others.

Analysis of the valuation of utility property for local tax assessment.

General economic consulting to companies and law firms for damage cases, valuation of time and future income, economic impact studies, and related economic issues.

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